

Claim Amendments

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1. (Currently Amended) A clear, water-soluble copolymer of

a) a monoethylenically unsaturated, acid-group-containing monomer selected from the group consisting of monocarboxylic acids, dicarboxylic acids and sulfonic acids, and

b) ~~at least one of the following copolymerizable hydrophobic components that contains an unsaturated double bond:~~

~~b1) an acyclic or a copolymerizable hydrophobic monocyclic terpene hydrocarbon,~~

~~b2) an unsaturated, open chain or cyclic, normal or isomeric hydrocarbon with 8 to 30 carbon atoms, and~~

~~b3) an unsaturated fatty alcohol with respectively 8 to 30 carbon atoms and its esters or amides with saturated aliphatic alcohols, amines and acids[[,]] wherein the copolymer is formed by radical copolymerization of components a) and b) in an aqueous phase and the proportion of component b) in the copolymer ranges from 0.2 to < 20 wt %.~~

Claim 2. (Previously Presented) The copolymer according to claim 1, wherein the monoethylenically unsaturated, acid-group-containing monomer comprises a monoethylenically unsaturated monocarboxylic acid.

Claim 3. (Previously Presented) The copolymer according to claim 1, wherein the acid-group-containing monomer is a member selected from the group consisting of acrylic acid, methacrylic acid and vinylacetic acid.

Claim 4. (Previously Presented) The copolymer according to claim 1, wherein the monoethylenically unsaturated, acid-group-containing monomer comprises a monoethylenically unsaturated monocarboxylic, a monoethylenically unsaturated sulfonic acid or both.

Claim 5. (Previously Presented) The copolymer according to claim 1, wherein the acid groups in the monomer are neutralized in a proportion of 1 to 75 %.

Claim 6. (Previously Presented) The copolymer according to claim 5, wherein the acid groups in the monomer are neutralized in a proportion of 5 to 30 %.

Claims 7 to 9. (Canceled)

Claim 10. (Previously Presented) The copolymer according to claim 1, further comprising up to 40 wt % of an acid-group-free, water-soluble monomer.

Claim 11. (Previously Presented) The copolymer according to claim 1, having a weight-average molecular weight of smaller than or equal to 500,000 g/mol.

Claim 12. (Previously Presented) The copolymer according to claim 11, having a weight-average molecular weight ranging from 1,000 and 10,000 g/mol.

Claim 13. (Currently Amended) A method for synthesis of a clear, water-soluble copolymer of:

a) monoethylenically unsaturated, acid-group-containing monomer selected from the group consisting of monocarboxylic acids, dicarboxylic acids and sulfonic acids, and

b) ~~at least a one of the following copolymerizable hydrophobic components that contains an unsaturated double bond:~~

~~b1) an acyclic[[,]] monocyclic and/or bicyclic terpene hydrocarbon,~~

~~b2) an unsaturated, open chain or cyclic, normal or isomeric hydrocarbon with 8 to 30 carbon atoms, and~~

~~b3) an unsaturated fatty alcohol with respectively 8 to 30 carbon atoms and its esters or amides with saturated aliphatic alcohols, amines and acids[[,]] comprising:~~
forming the copolymer by radical polymerization of the monomer components in the aqueous phase.

Claim 14. (Previously Presented) The method according to claim 13, wherein the concentration of the copolymerizable constituents in the aqueous polymerization mixture is 10 to 70 wt %.

Claim 15. (Previously Presented) The method according to claim 13, wherein component b) is in the form of an oil-in-water emulsion that is formed from a hydrophobic phase (oil phase), at least one emulsifier and water.

Claim 16. (Previously Presented) The method according to claim 13, wherein the radical polymerization is carried out in the presence of molecular-weight regulators.

Claim 17. (Currently Amended) A method for preventing organic, inorganic and mixed organic/inorganic deposits in a water-conveying system, comprising:

applying to the system an effective amount of a clear, water-soluble copolymer of

a) a monoethylenically unsaturated, acid-group-containing monomer selected from the group consisting of monocarboxylic acids, dicarboxylic acids and sulfonic acids, and

b) ~~at least a one of the following~~ copolymerizable hydrophobic components ~~that contains an unsaturated double bond:~~

~~b1) an acyclic, monocyclic and/or bicyclic terpene hydrocarbon,~~

~~b2) an unsaturated, open chain or cyclic, normal or isomeric hydrocarbon with 8 to 30 carbon atoms, and~~

~~b3) an unsaturated fatty alcohol with respectively 8 to 30 carbon atoms and its esters or amides with saturated aliphatic alcohols, amines and acids[[,]] wherein~~

the copolymer is formed by radical copolymerization of components a) and b) in the aqueous phase.

Claim 18. (Previously Presented) The method according to claim 17, applied in service water or wastewater systems, in cooling loops, in seawater desalination plants, in reverse osmosis systems, and for conditioning of brackish water and in the recovery of sugar from sugar beet.

Claim 19. (Previously Presented) The method according to claim 18, applied in the recovery of sugar from sugar beet for treatment of aqueous suspensions containing chopped sugar beet.

Claim 20. (Previously Presented) The method according to claim 17, wherein the copolymer is added to the water-conveying system in a proportion of 0.1 to 5000 ppm.

Claim 21. (Previously Presented) The method according to claim 20, wherein the copolymer is added to the water-conveying system in a proportion of 1 to 100 ppm.

Claim 22. (Previously Presented) A method for grinding and dispersing of pigments, comprising:

grinding and dispersing pigments in the presence of an auxiliary agent comprising the copolymer of claim 1.

Claim 23. (Previously Presented) A textile-treatment and leather-treatment process, comprising:

treating a textile or leather with the copolymer of claim 1.

Claim 24. (Previously Presented) A cleaning-agent or washing-agent formulation, comprising:

the copolymer of claim 1 as an auxiliary agent.